

REMARKS

Applicants respectfully request entry of the amendments and remarks submitted herein. Claim 1 has been amended herein. Claims 1, 2, and 8-11 are currently pending. Reconsideration of the pending application is respectfully requested.

Objections to the Specification

The Examiner objected to the specification because of the sequence recited on page 12, lines 19-21 lacks a sequence identifier. The specification has been amended herein such that the sequences referred to in paragraph [0087] now include sequence identifiers. In view of the amendments herein, Applicants respectfully request that the objection to the specification be withdrawn.

The 35 U.S.C. §101 Rejections

Claim 1 stands rejected under 35 U.S.C. §101 because, according to the Examiner, the claimed invention is directed to non-statutory subject matter.

Without acquiescing to the Examiner's rejection, claim 1 has been amended to recite an isolated polypeptide. In view of this amendment, Applicants respectfully request that the rejection of claim 1 under 35 U.S.C. §101 be withdrawn.

The 35 U.S.C. 112 Rejections

Claims 1, 2, and 8-11 stand rejected under 35 U.S.C. §112, first paragraph, as the Examiner asserted that those claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. According to the Examiner, the specification does not describe a genus of variants for the third polypeptide segment (i.e., having at least 40% sequence identity to SEQ ID NO:4) and there is no disclosure of any particular structure to function or activity relationship within this genus. The Examiner asserted that due to the lack of description on the structure-to-function relationship of the third polypeptide segment and the lack of representative species encompassed

by the claims, Applicants have failed to sufficiently describe the claimed invention. This rejection is respectfully traversed.

With respect to the third polypeptide segment, Applicants' specification discloses how to determine percent sequence identity (see, for example, page 10, line 18 through page 11, line 25). Applicants' specification also discloses embodiments of the third polypeptide segment having particular residues or sequence motifs (see, for example, page 12, lines 4-23). In addition, Applicants provide eighteen different examples of polypeptides that have a third polypeptide segment having at least 40% sequence identity to residues 115-506 of SEQ ID NO:4. The sequence identity for these eighteen different sequences ranges from 54% up to 100% relative to residues 115-506 of SEQ ID NO:4. See, for example, the even numbered sequences shown in SEQ ID NOs: 8-42. Based on this, the specification provides adequate written description for the third polypeptide segment.

In view of the remarks and amendments herein, Applicants respectfully request that the rejection of claims 1, 2, and 8-11 under 35 U.S.C. §112, first paragraph, be withdrawn.

CONCLUSION

Applicants respectfully request allowance of claims 1, 2 and 8-11. Please apply the \$450 fee for the enclosed Petition for Two-Month Extension of Time and any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

/September 14, 2007/

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Date: _____

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